

Capabilities

forestconcepts

Precision Feedstocks®

Reactor-Ready biomass feedstocks for research, pilot, and commercial-scale



Reliable, high-yielding performance of bio-products, biochemicals, and biofuels facilities depends upon consistent supply of uniform feedstocks. Forest Concepts has more than 15 years of experience co-optimizing feedstocks with client processes to maximize yield and profit.

In partnership with US Department of Energy, a new method for low-energy comminution (milling) of biomass was developed. The resulting rotary-shear technology (aka Crumbler® technology) enables milling of high moisture biomass to final small uniform particles without drying for biochemical conversion or before drying when dry feedstocks are needed.

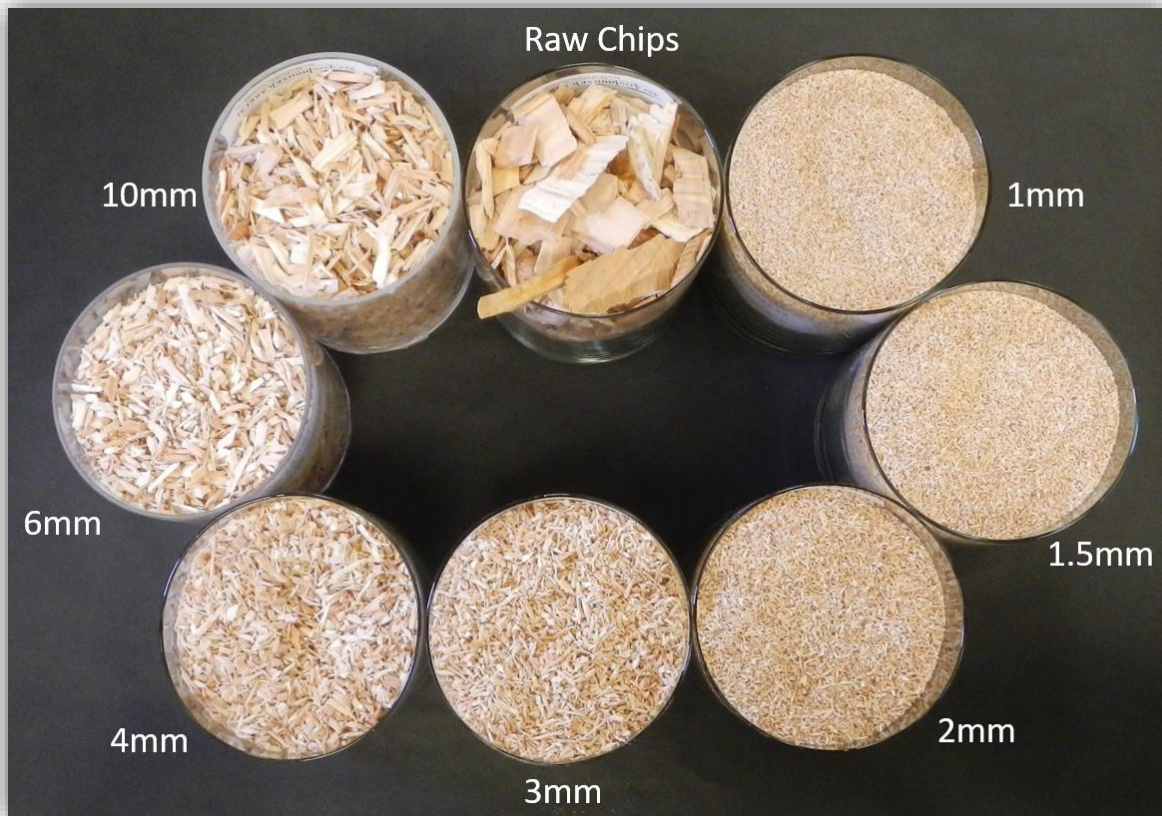
Precision feedstocks are optimized for particle cross-section, length/aspect ratio, moisture content, flowability, and other important characteristics. Forest Concepts delivers on-spec feedstocks through careful milling, screening, and drying.

An axiom of the bioeconomy is that “all feedstocks are local;” and an axiom of process engineering is that “every process configuration has a sweet spot.” Engineers and scientists at Forest Concepts work with customers and project teams every day to quantify the interaction of biomass feedstock properties with conversion process parameters in search of the low-cost sweet spot.

Forest Concepts’ has the capability to mill with a hammermill or Crumbler® equipment across the size range of 1.5mm to more than 20mm. The equipment is instrumented to document power consumption.

Screening specifications are developed using orbital tapping lab screens and verified with our own orbital two-deck screen that has more than 30 sieve options.

Test runs range from a few kilograms to truckloads.



Some of the materials we have experience with include:

Soft Wood

Western Juniper
 Eastern Redcedar
 Redwood
 Black Pine
 Lodgepole Pine
 Loblolly Pine
 Ponderosa Pine
 Douglas fir
 Spruce

Hard Wood

Alder
 Poplar
 Cottonwood
 Willow
 Tanoak
 Eucalyptus
 Maple

Herbaceous Species

Corn stover from bales
 Corn cobs
 Silage Corn – field chopped
 Sorghum – baled
 Sorghum – field chopped
 Switchgrass from bales
 Miscanthus – field chopped
 Miscanthus from bales
 Bamboo
 Wheat straw
 Barley straw
 Rice straw
 Arundo Donax
 Industrial hemp stalks

Other Materials

Bagasse
 Agave fiber
 Hemp fiber
 Almond hulls
 Almond shells
 Walnut shells
 Vineyard prunings
 Orchard prunings
 Ground forest residuals
 Ground land clearing debris
 C&D debris
 Recycled plastic bottles
 Recycled circuit boards

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